

## Medecinal Plant Alo Vera

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**Abstract:** Aloe Vera is a medicinal plant known for its antioxidant and anti-inflammatory properties, used for thousands of years to treat skin conditions like burns, wounds, and psoriasis. The gel inside its leaves contains vitamins, minerals, amino acids, and enzymes that can be applied topically or consumed orally to support skin health, aid digestion, and boost the immune system. Aloe Vera is a succulent plant known for its medicinal properties, particularly in treating skin conditions like burns and wounds. It is a short-stemmed, perennial plant with thick, fleshy leaves that contain a clear inner gel rich in vitamins, minerals, and amino acids, and a bitter yellow latex in the outer layer. This latex is a powerful laxative and should be ingested with caution.

Aloe Vera is a natural product that is now a day frequently used in the field of cosmetology. Though there are various indications for its use, controlled trials are needed to determine its real efficacy. The aloe Vera plant, its properties, mechanism of action and clinical uses are briefly reviewed in this article.

**Keywords:** Aloe Vera, health and beauty, skin.

**Introduction** - The Aloe Vera plant has been known and used for centuries for its health, beauty, medicinal and skin care properties. The name Aloe Vera derives from the Arabic word "Alloeh" meaning "shining bitter substance," while "Vera" in Latin means "true." 2000 years ago, the Greek scientists regarded Aloe Vera as the universal panacea. The Egyptians called Aloe "the plant of immortality." Today, the Aloe Vera plant has been used for various purposes in dermatology.

**History** : Aloe Vera has been used for medicinal purposes in several cultures for millennia: Greece, Egypt, India, Mexico, Japan and China.<sup>1</sup> Egyptian queens Nefertiti and Cleopatra used it as part of their regular beauty regimes. Alexander the Great, and Christopher Columbus used it to treat soldiers' wounds. The first reference to Aloe Vera in English was a translation by John in A.D. 1655 of Discords' Medical treatise De Materia Medica. By the early 1800s, Aloe Vera was in use as a laxative in the United States, but in the mid-1930s, a turning point occurred when it was successfully used to treat chronic and severe radiation dermatitis.

**Plant description:** The botanical name of Aloe Vera is Aloe barbadensis miller. It belongs to Asphodelaceae (Liliaceae) family, and is a shrubby or arborescent, perennial, xerophytic, succulent, pea- green colour plant. It grows mainly in the dry regions of Africa, Asia, Europe and America. In India, it is found in Rajasthan, Andhra Pradesh, Gujarat, Maharashtra and Tamil Nadu.

**Type:** A succulent, perennial plant with a short stem.



**Leaves:** Thick, fleshy, and green to grey-green with serrated edges and white flecks on some varieties. The leaves are arranged in a rosette and contain the useful gel.

**Layers:** Each leaf has three layers: a clear inner gel, a middle layer of bitter yellow latex, and an outer protective rind.

The plant has triangular, fleshy leaves with serrated edges, yellow tubular flowers and fruits that contain numerous seeds. Each leaf is composed of three layers:

1. An inner clear gel that contains 99% water and rest is made of glucomannans, amino acids, lipids, sterols and vitamins.
2. The middle layer of latex which is the bitter yellow sap and contains anthraquinones and glycosides.
3. The outer thick layer of 15–20 cells called as rind which has protective function and synthesizes carbohydrates and

proteins. Inside the rind are vascular bundles responsible for transportation of substances such as water (xylem) and starch.

**Active components with its properties:** Aloe Vera contains 75 potentially active constituents: vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids and amino acids

**Vitamins:** It contains vitamins A (beta-carotene), C and E, which are antioxidants. It also contains vitamin B12, folic acid, and choline. Antioxidant neutralizes free radicals.

**Enzymes:** It contains 8 enzymes: aliase, alkaline phosphatase, amylase, bradykinase, carboxypeptidase, catalase, cellulase, lipase, and peroxidase. Bradykinase helps to reduce excessive inflammation when applied to the skin topically, while others help in the breakdown of sugars and fats.

**Minerals:** It provides calcium, chromium, copper, selenium, magnesium, manganese, potassium, sodium and zinc. They are essential for the proper functioning of various enzyme systems in different metabolic pathways and few are antioxidants.

**Sugars:** It provides monosaccharides (glucose and fructose) and polysaccharides: (glucomannans). These are derived from the mucilage layer of the plant and are known as mucopolysaccharides. The most prominent monosaccharide is mannose-6-phosphate, and the most common polysaccharides are called glucomannans [beta-(1,4)-acetylated mannan]. Acemannan, a prominent glucomannan has also been found. Recently, a glycoprotein with antiallergic properties, called alprogen and novel anti-inflammatory compound, C-glucosyl chromone, has been isolated from Aloe Vera gel.

**Anthraquinones:** It provides 12 anthraquinones, which are phenolic compounds traditionally known as laxatives. Alboin and emodin act as analgesics, antibacterial and antivirals.

**Fatty acids:** It provides 4 plant steroids; cholesterol, camp sterol, â-sitosterol and lupeol. All these have anti-inflammatory action and lupeol also possesses antiseptic and analgesic properties.

**Hormones:** Auxins and gibberellins that help in wound healing and have anti-inflammatory action.

**Others:** It provides 20 of the 22-human required amino acids and 7 of the 8 essential amino acids. It also contains salicylic acid that possesses anti-inflammatory and antibacterial properties. Lignin, an inert substance, when included in topical preparations, enhances penetrative effect of the other ingredients into the skin. Saponins that are the soapy substances form about 3% of the gel and have cleansing and antiseptic properties.

**Uses and properties:** The gel is commonly used to soothe and heal skin injuries, burns, rashes, and dry skin.

Aloe Vera, the succulent plant has been in use for its impressive healing and therapeutic properties for over 1000 years. Commonly known as medicinal aloe, burn plant, lily of the desert, and elephants gall and Grits Kumari in Hindi,

aloe vera is perhaps the first choice from the bounty of Mother **Nature**, **healing** wounds or to even promote digestion.

The green cactus looking plant grown in our gardens is a powerhouse of vital compounds that can be used right from cosmetics, nutritious juices to supplements.

**Aloe Vera gel:** Aloe Vera gel is a translucent product present in its leaves. It is made up of 96% water, protein containing 18-20 amino acids, **vitamins A, vitamin B, vitamin C, vitamin E**, certain organic and inorganic compounds.

Aloe Vera contains a host of potent plant compounds that includes lignin, saponins, salicylic acids and amino acids, vitamin B12, folic acid, and choline. The dense nutrient profile of Aloe Vera gel and drinking this healthy juice provides you with amazing healing benefits.

#### Howto Make Aloe Vera Gel at Home

2 Aloe Vera leaves

1 tsp coconut oil

½ tsp vitamin C powder

#### Method

Making aloe Vera gel is an easy and simple process.

Clean your hands and cut the leaves. Hold it in an upright position for a few minutes letting the resin out.

Wash the leaves thoroughly and peel off the thick skin with a knife and extract the transparent gel.

In a mixer, blend the gel adding few drops of coconut oil or vitamin C powder to preserve it for longer duration.

Store in a tight glass jar.

**How to Use Aloe Vera Gel:** Aloe Vera gel is loaded with a complex carbohydrate known as acemannan that can revamp cells and clear toxins. Ayurveda promotes it as an incredible healer both externally and internally.

**1. Aloe Vera Gel as A Face Pack:** Face packs made from aloe vera gel provide instant glow and provide skin radiance for longer hours. The gel also serves as moisturizer and thanks to its antimicrobial properties it can heal acne and reduce inflammation.

**2. Aloe Vera Gel as A Cleanser:** Acemannan in Aloe Vera is helpful in cleansing the clogged skin pores, clearing out dead skin cells and other skin toxins. Since the gel is very mild, it suits all skin types including sensitive ones.

#### 3. Aloe Vera Gel as A Sunscreen

The gel is nutrient dense with an SPF 30 and aids the skin by shields it from harmful effects of UVA and UVB rays. The host of healing properties reduce the risk of aging, skin cancer and treat sunburns.

**4. Aloe Vera Gel as A Hair Oil:** Aloe Vera gel can be slimy but is an incredible hair care product for those suffering from hair loss. It arrests hair fall, clears dandruff and nourishes the dry scalp. Applying aloe vera gel regularly strengthens hair follicles and its antimicrobial properties treat fungal scalp infections effectively.

**Skin Health:** Aloe Vera is the top choice in many households in the world for its amazing healing properties, especially while treating skin diseases.

Use it for treating suntan or a pimple as its strong anti-viral and anti-bacterial properties aid in effectively treating skin problems. The clear gel can be applied topically to ward off infections, healing wounds and make the skin look glowing and supple.

**1. Soothes Sunburn:** The gel is popular for its anti-inflammatory properties and can reduce the harsh effects caused due to UV rays almost instantly. If you have a sunburn, rub some gel on the affected area as it penetrates into the epithelial layer of the skin and locks the moisture. The nutrition profile in the gel contributes towards nourishing the skin and speed up the process of healing.

**2. Delays Signs of Ageing:** Aloe Vera works wonders in treating wrinkles and fine lines that appear with the age. The skin tends to lose its hydration and elasticity and Aloe Vera is beneficial in flushing out dead cells even as it moisturizes the skin. Studies prove that Aloe Vera enhances the elasticity of skin, making it glow naturally.

**3. Fades Acne Marks:** Aloe Vera gel is one such wonder ingredient that can serve as an anti-bacterial and anti-inflammatory agent. It prevents acne breakout, as the goodness of gibberellins and auxins in Aloe Vera regenerate new cells, in the process of healing.

**4. First Aid for Wounds:** It also serves as a first aid when it comes to healing wounds and insect bites. Dab some aloe vera gel on cuts, bruises and insect bites for instant healing or use it as an aftershave lotion to soothe the skin.

**5. Wipes Away Stretch Marks:** Stretch marks are quite bothersome and they are caused due to pregnancy, weight gain and loss of weight. Skin tends to lose its elasticity with the age. Regular application of aloe vera gel clears ugly looking stretch marks.

**6. Provides Silky Mane:** Aloe Vera is high on protein, vitamins and minerals that provide instant nourishment to hair follicles instantly. Applying aloe vera gel regularly improves its overall texture and makes the styling easy, be it for those curls or messy buns.

**7. Protects from Dense Water:** We find super hard water with high salt content in many places of our country due to its tropical climate. Taking shower with this water can make hair look duller and brittle. Massage aloe vera gel mixed with coconut or sesame oil on the scalp an hour before your bath for natural hydration, moisturization. It also provides pH balance of the hair, prevents itchy scalp and serves against the ill effects of dense water.

**8. Nourishes Hair from Within:** Aloe Vera is also a storehouse of healing enzymes that can flush out dead skin cells on the scalp. Always mix aloe vera gel with coconut oil and apply it on the scalp for faster growth, volume and glow.

#### Aloe Vera For Treating Skin Conditions:

**1. Aloe Vera Gel for Prickly Heat:** Aloe Vera helps in clearing rashes caused due to prickly heat. The powerful antibacterial and antiseptic properties of the gel reduce inflammation on the affected area. Applying it as a thin layer

especially on the babies guards the skin from dehydration. For instant relief, apply gel over the affected area and let it stay for 15 minutes. Rinse well with water and repeat it daily.

**2. Aloe Vera Face Packs for Skin Pigmentation:** Skin pigmentation is one of the major issues faced by teenagers and it is of various types. Pigmentation is classified into melasma, freckles, spots and age spot these ugly spots often occur due to hormonal imbalances, overexposure to sun, age, and presence of excessive melanin, a main pigment that provides natural skin tone.

Hyperpigmentation is common under intense heat due to overexposure to the sun. They form into freckles and turn into brown spots on the face.

If you are suffering from hyperpigmentation, seek help in aloe vera.

#### Aloe Vera & Honey Pack:

##### Ingredients:

1 tsp fresh aloe vera gel

½ tsp plain honey

**Method:** Take a bowl and mix the fresh aloe vera gel and honey.

Put it as a layer of face pack on the affected areas.

Let it dry for 30 minutes.

Wash it with lukewarm water, pat dry.

**How It Works:** Aloe Vera is rich in a loin that plays a major role in skin lightening. Mixing it with honey provides instant face glow.

**3. Aloe Vera Gel for Treating Acne:** Acne is a common and a worrying skin condition, especially for the teenagers. It causes spots, pimples, whiteheads, blackheads, cysts and nodules on the face, neck.

However, applying aloe vera gel regularly helps in clearing these scars on the face and neck over a few weeks.

#### Aloe Vera Face Pack

##### Ingredients:

1 tsp of fresh aloe vera extract

##### Method:

Extract gel from thick aloe vera leaves.

Spread it on the affected areas like a thin layer.

Let it dry for 30 minutes.

Rinse it with plain water.

**How It Works:** Aloe Vera gel is a powerhouse of antioxidant and anti-inflammatory properties and these factors play an important role clearing the damaged skin. It repairs scars and prevents further formation of acne.

**4. Aloe Vera Moisturizer for Dry Skin:** Seasonal changes, be it summer, rainy, winter are not a good time for your skin and they bring in a lot of challenges. Air pollution is another toxic factor that can make your skin dry up faster and aggravate conditions like eczema and psoriasis.

For many of us, skin fails to retain the hydration as we age. If you have tried with a variety of moisturizers and yet to see results, it's time to make your own moisturizer. These DIY moisturizers are easy to make, affordable and



can be stored for a month. What's more, it also leaves your skin hydrated and supple for longer hours.

#### **Aloe Vera Moisturizer**

##### **Ingredients**

100 gms cup aloe vera gel

10 tsps. beeswax

75 ml coconut oil

75 ml almond oil

Few drops of any essential oil for fragrance

**Method:** In a double boiler, melt beeswax, coconut oil and almond oil. You can also microwave till it melts.

Add aloe vera gel, essential oil to the mixture. Keep stirring till it forms into a creamy texture.

Store in an air-tight glass jar.

**How It Works:** Aloe Vera gel heals inflammation, reduces itchiness and hydrates dry skin. Beeswax, when blended with coconut and almond oils, keeps skin moisturized and prevent skin infections.

Aloe Vera and Eucalyptus Oil Mask

##### **Ingredients**

1 Aloe Vera gel

3 to 5 drops of Essential eucalyptus oil or any other essential oil

**Method:** In a bowl, combine aloe Vera gel and eucalyptus oil.

Apply it on the scalp and gently massage till the oil gets absorbed.

Rinse hair with lukewarm water and mild shampoo.

**How It Works:** Aloe Vera moisturizes dry scalp and prevents the growth of bacteria. Essential eucalyptus oil not only clears dandruff but also lessens itchiness.

#### **5. Aloe Vera For Tan**

**Aloe Vera:** Aloe Vera is an extensively available and grown herb in your garden. It serves as a great cooling agent and is a one stop solution for all your skin and hair ailments. It nurtures the skin and acts as a skin cleanser by getting rid of the suntan, dryness and skin blemishes.

**Aloe Vera Nutrition:** Aloe Vera plant has a host of plant compounds such as mannans, polysaccharides, lectins, and anthraquinones that are valuable for health. As per USDA, Aloe Vera juice is an amazing source of essential minerals iron, sodium and calcium. It further has about 18 amino acids that work together with other compounds to provide numerous health benefits.

**Aloe Vera Juice:** The elixir of nutrients in Aloe Vera juice provides the body with a host of healing health benefits. This powerful juice promotes digestion and its anti-inflammatory properties help in treating ulcers. Aloe Vera juice plays a pivotal role in treating various skin disorders like psoriasis, dermatitis and soothe the skin from sunburn. The richness of antioxidants in Aloe Vera juice makes the skin glow naturally.

**Benefits of Drinking Aloe Vera Juice:** Aloe Vera juice is gooey, a thick liquid made from a fresh gel of the aloe vera plant leaf. The juice is made by grinding the gel of the plant,

followed by filtering, and purifying the liquid. It has a mild taste and flavour that blends easily with smoothies and shakes. Aloe vera juice is valued as a complete food supplement.

**Hydration:** The aloe Vera plant is loaded with water; thus, it is the best choice to prevent dehydration. Staying well hydrated supports the body to detoxify the toxins and flush out impurities. Bestowed with chock full of nutrients having aloe Vera juice optimizes the body's organ output and maintain kidney health. Aside from this, aloe Vera juice helps to replenish and recover from heavy workouts.

**Healthy Liver:** Aloe Vera juice imbued with phytonutrients and water is an ideal way to keep the liver healthy and function well. As the liver functions best when the body is well-nourished and hydrated.

**Remedies Heartburn:** Drinking aloe Vera juice may offer respite from heartburn and acidity. The bioactive compound present in aloe Vera juice helps control the secretion of stomach acid. Thus, regular consumption of this soothing drink treat gastric ulcers and prevent them from worsening.

How to Make Aloe Vera Juice At Home

##### **Ingredients:**

2 tsp fresh aloe Vera gel

1 tsp lemon juice

1 glass chilled water

##### **Method:**

In a blender, mix aloe Vera gel and lemon juice.

Add chilled water and dilute it.

Serve immediately.

Aloe Vera Juice Nutrition

Nutritional value of beverages, aloe Vera juice drink, fortified with Vitamin C

Serving Size: 1 cup

Calories 36 Kcal.

Water 230.95 g

Energy 36 Kcal

Carbohydrate 9 g

Total Sugars 9 g

Calcium 19 mg

Iron 0.36 mg

Sodium 19 mg

Vitamin C 9.1 mg

Aloe Vera Supplements, Ointments and Patches

If you are not able to get fresh aloe Vera gel or do not have time on hands to use it in a natural way, switch over to the supplements. Available in the form of capsules or tablets, these supplements can be taken orally.

##### **Uses of Aloe Vera Supplements:**

###### **Rich in Plant Compounds:**

Aloe Vera supplements are rich in healthy plant compounds and the easiest way to get all your vitamins, Supplements made minerals, amino acids all in one go.

**Serves as Antioxidants:** from Aloe Vera gel are known for antioxidant and antibacterial properties. Regular intake of these tablets restricts the growth of harmful bacteria in the

body.

**Heals from Within:Supplements,** ointments made from aloe vera penetrate deep into the skin and soothe the inner layers of the skin. Applying the ointments on the affected areas speeds up the process of healing.

**Treats Mouth Ulcers:** The goodness of Aloe Vera is also available in the form of patches. If you are suffering from mouth ulcers or canker sores, put an aloe vera patch on the affected area to heal instantly.

**Reduces Blood Sugar:** Ayurveda recommends aloe Vera to bring down the levels of blood sugar. Regular intake of aloe Vera supplements help in increasing insulin sensitivity and aid towards liver function. If you are a diabetic, talk to your doctor if aloe Vera supplements work for you.

**Aloe Vera Recipes:** It has been established that Aloe Vera is edible. In fact, these thick leaves are a staple diet in few areas of northern India. Known as Ghrit Kumari or Gwarpatha in Hindi, these leaves can be cooked into an amazing curry, that goes very well with rice and roti.

#### **Ghrit Kumari Subzi**

250 grams freshly chopped aloe Vera leaves

3 tbsp oil

2 tsp curd

½ tsp jeera or cumin

½ tsp mustard

½ tsp turmeric powder

1 tsp red chilli powder

½ tsp amchur or dry mango powder

¼ tsp sugar

Pinch of Hing

Salt to taste

#### **Method:**

Wash thick leaves of aloe vera and extract the gel. Wash again.

Chop it into small pieces. Boil in enough till tender, keep aside.

In a pan, heat oil. Add cumin, mustard and Hing.

Add boiled aloe Vera pieces along with turmeric and chilli powder.

Sauté for a minute and add curd.

Let the curd get absorbed by the curry. Sprinkle dry mango powder and add salt to taste. Stir well.

Serve hot with rice or roti.

#### **Nutritional Values:**

Aloe Vera leaves are loaded with vitamins, minerals, amino acids and antioxidants that provide total nutrition to the body while curd as a probiotic soothes the stomach. Cumin, dry mango powder aid in digestion and this curry keeps you full for a long time.

#### **Kiwi And Aloe Popsicle**

1 cup freshly cut Kiwi fruit

½ cup freshly extracted Aloe Vera gel

Chilled water

#### **Method:**

Dilute aloe Vera gel with chilled water.

Pour the juice in popsicle mould and add kiwi pieces.

Freeze it for 6 hours or until hard.

**Internal consumption:** Some people ingest the gel for its potential digestive health benefits and as a source of vitamins and minerals like Vitamin C, E, B12, calcium, and zinc.

**Vitamins and minerals:** It contains a wide range of vitamins (including A, C, and B12), enzymes, amino acids, and minerals.

**Anti-inflammatory and antioxidant effects:** The plant's compounds have shown antioxidant and anti-inflammatory properties.

**Latex:** The bitter, yellow latex from the outer layer is a powerful laxative and should be avoided for oral consumption, especially for pregnant or breastfeeding individuals. Ingesting the latex may cause abdominal cramps, diarrhoea, or other adverse effects.

#### **Skin benefits**

**Wound healing:** It accelerates the healing of cuts, burns, and other skin injuries.

**Soothing:** It soothes skin irritations, insect bites, and sunburn.

**Anti-aging:** Antioxidants in the plant may help reduce wrinkles and repair damaged skin cells.

**Skin conditions:** It can be effective for acne, psoriasis, dermatitis, and other skin ailments.

#### **Internal benefits**

**Digestive health:** Consuming aloe Vera juice is linked to improved digestion.

**Immune support:** It possesses immune-boosting and anti-viral properties.

**Blood sugar management:** Some studies suggest it may help manage blood sugar levels.

#### **Nutritional content**

**Vitamins:** Contains a range of vitamins, including A, C, E, and B-group vitamins (like B12).

**Minerals:** Provides minerals such as calcium, magnesium, zinc, and selenium.

**Amino acids:** Contains 19 of the 20 amino acids humans need, including all eight essential ones.

**Antioxidants:** Rich in antioxidants that fight free radical damage.

**A loin:** The yellow sap (a loin) in raw aloe Vera can cause cramping and has a laxative effect if ingested. It's recommended to soak raw gel in water to remove it, or use commercially prepared products which are typically a loin-free.

#### **Mechanism of actions**

**Clinical uses:** The clinical use of aloe Vera is supported mostly by anecdotal data. Though most of these uses are interesting, controlled trials are essential to determine its effectiveness in all the following diseases.

**Conditions:** Alopecia, bacterial and fungal skin infections, chronic leg wounds, parasitic infections, systemic lupus erythematosus, arthritis and tic douloureux.

**Contraindication:** Contraindicated in cases of known allergy to plants in the Liliaceae family.

**Pregnancy and breastfeeding:** Oral aloe is not recommended during pregnancy due to theoretical stimulation of uterine contractions, and in breastfeeding mothers, it may sometime causes gastrointestinal distress in the nursing infant.

**Interactions:** Application of aloe to skin may increase the absorption of steroid creams such as hydrocortisone. It reduces the effectiveness and may increases the adverse effects of digoxin and digitoxin, due to its potassium lowering effect. Combined use of Aloe vera and furosemide may increase the risk of potassium depletion. It decreases the blood sugar levels and thus may interact with oral hypoglycemic drugs and insulin.

Thus, though Aloe vera has wide spectrum of the properties and uses, some of them could be myths and some of them could be real magic. In future, controlled studies are required to prove the effectiveness of Aloe vera under various conditions.

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